

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[M.PHARM 0823]

**AUGUST 2023
(APRIL 2023 EXAM SESSION)**

Sub. Code: 2941

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER I – MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES**

Q.P. Code: 262941

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Explain the principle, instrumentation and applications of NMR Spectroscopy.
b) Discuss in detail about GC Columns.
2. a) Discuss IR interpretation of the following:
i) Benzamide ii) 2-Hydroxybenzoic acid iii) Butanal iv) Benzyl alcohol.
b) Discuss the following ionization methods in MS
i) Chemical ionization ii) FAB.
c) Explain the working principle and applications of Heat flux DSC.

II. Write notes on:

(7 x 5 = 35)

1. Write a note on working principle of Time of Flight Mass Analyzer in Mass Spectroscopy.
2. Discuss about choice of solvents and its effect in UV-Visible Spectroscopy.
3. Write a brief account on the theory and applications of:
a) Zone electrophoresis b) Thin Layer Chromatography.
4. Discuss on quenching and factors affecting fluorescence intensity.
5. Explain the working principle and applications of Atomic Absorption Spectroscopy.
6. Write a note on Derivative Differential Thermal Analysis (DDTA).
7. Write a note on X-ray powder diffraction technique.
